REMARKS

Claims 1-24 were pending in this application.

Claims 1-3, 6, 7, 9, 10, 12, 13, 15, 16, 18, 19, and 22-24 have been rejected.

Claims 4, 5, 8, 11, 14, 17, 20, and 21 have been objected to.

No claims have been amended.

Claims 1-24 remain pending in this application.

Reconsideration and full allowance of Claims 1-24 are respectfully requested.

I. ALLOWABLE CLAIMS

The Applicants thank the Examiner for the indication that Claims 4, 5, 8, 11, 14, 17, 20, and 21 would be allowable if rewritten in independent form to incorporate the elements of their respective base claims and any intervening claims. Because the Applicants believe that the remaining claims in this application are allowable, the Applicants have not rewritten Claims 4, 5, 8, 11, 14, 17, 20, and 21 in independent form.

II. REJECTION UNDER 35 U.S.C. § 103

The Office Action rejects Claims 1-3, 7, 9, 10, 13, 15, 16, 19, 22, and 23 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2004/0024568 to Eryurek et al. ("*Eryurek*") in view of U.S. Patent Publication No. 2003/0216888 to Ridolfo ("*Ridolfo*"). The Office Action rejects Claims 6, 12, 18, and 24 under 35 U.S.C. § 103(a) as being unpatentable over *Eryurek* and *Ridolfo* in view of U.S. Patent No. 5,646,600 to Abdel-Malek et al. ("*Abdel-*

Malek"). These rejections are respectfully traversed.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. (*MPEP § 2142; In re Fritch, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992)*). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. (*MPEP § 2142; In re Oetiker, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); In re Piasecki, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984)*). Only when a *prima facie* case of obviousness is established does the burden shift to the Applicant to produce evidence of nonobviousness. (*MPEP § 2142; In re Oetiker, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993)*). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the Applicant is entitled to grant of a patent. (*In re Oetiker, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); In re Grabiak, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985)*).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. (*In re Bell, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993)*). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references

when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on the Applicant's disclosure. (*MPEP § 2142*).

The Office Action acknowledges the Applicants' previously argument that *Eryurek* fails to disclose, teach, or suggest various elements of Claims 1, 9, 15, and 22. (*Office Action, Page 11, Section paragraph*). The Office Action asserts that *Eryurek* "does teach the limitations argued by the Applicants." (*Office Action, Page 11, Section paragraph*). The Office Action then states that a "[d]etailed response is given in section 2 as set forth above in this Office Action." (*Office Action, Page 11, Section paragraph*).

Section 2 of the Office Action fails to respond to any of the Applicants' prior arguments regarding *Eryurek*. In fact, the rejection of Claims 1, 9, 15, and 22 in the current Office Action is simply a repeat of the exact same rejection made in the prior Office Action. The current Office Action makes absolutely no attempt to respond to the Applicants' arguments regarding *Eryurek*.

As noted in the Applicants' response to the prior Office Action, *Eryurek* recites a signal preprocessor 150 that performs a wavelet transform to decompose a sensor signal into various decomposition levels. (*Pars. [0020] and [0027]*). A signal evaluator 154 evaluates some or all of the isolated portions of the sensor signal and generates an output based on the evaluation. (*Pars. [0020] and [0027]*).

Eryurek never recites that a "plurality of indexes" are generated for the decomposition levels, where one of the decomposition levels is selected using one or more of the "plurality of indexes." At most, *Eryurek* simply indicates that some or all of the decomposition levels are

selected based on the "particular system configuration and sensor type." (*Par. [0027]*). The Office Action makes no attempt to explain how *Eryurek* discloses, teaches, or suggests generating a "plurality of indexes" associated with multiple resolution levels and then selecting one of the resolution levels using one or more of the "plurality of indexes" as recited in Claims 1, 9, 15, and 22.

Moreover, as is clearly shown in Figure 6B of *Eryurek*, *Eryurek* isolates various components in the sensor signal, compares the isolated components to thresholds or limits, and generates an output condition if a threshold or limit is exceeded. Assuming that the Office Action relies on the "isolated components" of *Eryurek* as anticipating the "resolution levels" recited in the claims, the Office Action must show that one of the isolated components is selected using at least one of a "plurality of indexes," where the indexes are "based on" the indicator(s) in the resolution levels. The Office Action cannot make this showing.

Eryurek lacks any mention that the thresholds or limits are generated using the contents of the isolated components. Rather, the contents of the isolated components are simply compared to the thresholds, and an output condition is produced if a threshold is exceeded. As a result, *Eryurek* fails to disclose, teach, or suggest generating a "plurality of indexes" that are "based on" one or more indicators in a plurality of resolution levels, where "at least one of the indexes" is used to select one of the resolution levels as recited in Claims 1, 9, 15, and 22.

In addition, Claims 1, 9, 15, and 22 recite determining an "overall probability of a valve defect" using "at least one of the indexes that is associated with the selected resolution level." The Office Action acknowledges that *Eryurek* fails to disclose these elements of Claims 1, 9, 15,

and 22. The Office Action relies on *Ridolfo* as disclosing these elements of the claims. (*Office Action, Page 3, Second paragraph*). However, as previously noted, Claims 1, 9, 15, and 22 recite that the "overall probability" is determined using at least one "index." If the Office Action relies on the limits or thresholds of *Eryurek* as anticipating the "plurality of indexes" recited in the claims, the Office Action must then show that *Ridolfo* uses those thresholds to calculate an "overall probability of a valve defect." The Office Action does not make this showing.

Ridolfo specifically recites monitoring information such as "valve and switch timing," the number of "operational cycles," and "trending in-service valve test results" to predict potential failures of valves. (*Par. [0064]*). None of this information represents the thresholds or limits of *Eryurek*. As a result, *Ridolfo* fails to disclose, teach, or suggest determining an "overall probability" of a valve defect using the "limits" of *Eryurek*. Because of this, the proposed *Eryurek–Ridolfo* combination fails to disclose, teach, or suggest determining an "overall probability of a valve defect" using "at least one of the indexes that is associated with the selected resolution level" as recited in Claims 1, 9, 15, and 22.

For these reasons, the Office Action has not established a *prima facie* case of obviousness against Claims 1, 9, 15, and 22 (and their dependent claims).

Claim 24 recites generating "one or more indexes associated with one or more of the stiction patterns" and determining an "overall probability of a valve defect" using at least one of the "one or more indexes." Again, the Office Action appears to rely on the "limits" of *Eryurek* as anticipating the "indexes" recited in Claim 24. As noted above, the Office Action fails to establish that *Ridolfo* uses those limits to calculate an "overall probability of a valve defect."

The Office Action does not rely on *Abdel-Malek* as disclosing, teaching, or suggesting these elements of Claim 24. As a result, the Office Action fails to establish that the proposed *Eryurek–Ridolfo–Abdel-Malek* combination discloses, teaches, or suggests all elements of Claim 24.

For these reasons, the Office Action has not established a *prima facie* case of obviousness against Claim 24.

Accordingly, the Applicants respectfully request withdrawal of the § 103 rejections and full allowance of Claims 1-3, 6, 7, 9, 10, 12, 13, 15, 16, 18, 19, and 22-24.

III. CONCLUSION

The Applicants respectfully assert that all pending claims in this application are in condition for allowance and respectfully request full allowance of the claims.

SUMMARY

If any issues arise, or if the Examiner has any suggestions for expediting allowance of this application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at *wmunck@davismunck.com*.

The Commissioner is hereby authorized to charge any fees connected with this communication (including any extension of time fees) or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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